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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,780	11/13/2001	Farhad Farassat	MEISS63.001AUS	4733

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EXAMINER

VU, PHUONG T

ART UNIT	PAPER NUMBER
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2841

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,780

Applicant(s)

FARASSAT, FARHAD

Examiner

Phuong T. Vu

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-11,14,17,18,21,23,24 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,12,13,15,16,20,22 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-11,14,17,18,21,23,24 and 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6-11, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kwak (US 6,020,597). Regarding claim 1, the reference discloses a miniaturized circuit housing to encapsulate and provide external contacts for at least one integrated circuit having circuit contacts, the circuit housing comprising a housing floor 20 comprising a lower surface which includes housing contact elements 22 for making external contact and an upper surface with contact surfaces 21 arranged to correspond to the circuit contacts and the housing floor being configured to receive at least one integrated circuit 11 and a housing lid comprising 12,13 attachable to the housing floor so as to define a housing such that when at least one integrated circuit is positioned within the housing, the at least one integrated circuit is pressed resiliently against the upper surface of the housing floor with no permanent connection between the contact surfaces of the housing and the circuit contacts of the at least one integrated circuit.

Regarding claim 2, the housing lid on its lower surface comprises at least one spring element 50 comprising 51, 52 arranged to press an integrated circuit positioned within the housing against the housing floor.

Regarding claim 3, the at least one spring element is fixedly attached to the lower surface of the housing lid.

Regarding claim 6, a wall that substantially rigidly connects the floor and the lid of the housing to one another at their circumference so as to define an interior of the housing and tightly seals off the interior of the housing when the housing floor and lid are attached.

Regarding claim 7, the wall is formed as part of the housing floor or the housing lid and wherein the wall is sealable via a butt joint to the respective housing lid or housing floor in a gas tight manner.

Regarding claim 8, the seal 41, 42 is formed by an external plastic encapsulation of at least the butt joint between the housing lid or housing floor and the wall.

Regarding claim 9, the interior of the housing is filled with an inert gas when sealed.

Regarding claim 10, the housing has a flat four-cornered shape with a substantially level and rectangular housing floor and housing lid.

Regarding claim 11, the lid of the housing is rigidly constructed and joined to the wall.

Regarding claim 14, the housing contact elements are at least partially spherical.

3. Claims 21, 23-24, 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Horvath (US 4,415,025). Regarding claim 21, the reference discloses an electronic circuit housing assembly comprising a circuit chip 12 having chip contacts 22, a housing floor 10 comprising a plurality of outer contacts 14 disposed on a lower

Art Unit: 2841

surface of the housing floor so as to provide external contact and which are in electrical contact with a corresponding plurality of inner contacts (metallurgy pattern provided within or on top surface of 10 as mentioned in column 3, line 15-17) arranged to correspond to the chip contacts and a housing lid 16 attachable to the housing floor so as to define a housing wherein positioning of the chip within the housing and attachment of the housing lid to the housing floor inherently induces an elastic pressure on the chip so as to create a compression contact between the chip contacts and the inner contacts.

Regarding claim 23, at least one elastic element 24 is interposed between the housing lid and the chip.

Regarding claim 24, the at least one elastic element comprises a spring.

Regarding claim 26, the at least one elastic element is fixedly attached to the housing lid or the chip.

Regarding claim 27, the at least one elastic element is held in compression between the housing lid and the chip by the attachment of the housing lid to the housing floor.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2841

5. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwak (US 6,020,597). Regarding claim 17, the reference shows that contact surfaces are configured as bumps so as to make internal contact with the circuit contacts which are flat elevations. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the contact surfaces as flat elevations and the circuit contacts as bumps, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Regarding claim 18, the reference is silent about the composition of the contact surfaces. It would have been obvious to those skilled in the art at the time the invention was made that the contact surfaces may be formed from gold as this element provides excellent conductivity and is never corrosive. Regarding the manufacturing process with respect to how the contact surfaces are formed, in article claims, it has been settled that the presence of process limitations in product claims, which product does not otherwise distinguish over the prior art, cannot impart patentability to that product. (*In re Johnson*, 157 USPQ 670, 1968). No patentable weight is given to intermediate steps or intended steps in the process of manufacturing the final article. The recited final structure of the article is relied upon for the determination of patentability.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horvath (US 4,415,025). Regarding claim 28, the reference is silent about the composition of the outer contacts or the chip contacts. However, it would have been obvious to those

Art Unit: 2841

skilled in the art at the time the invention was made that these contacts may be formed of gold as this element provides excellent electrical conductivity and is never corrosive.

Response to Arguments

7. Applicant's arguments filed September 4, 2003 have been fully considered.

The previously made rejection under 35 U.S.C. 112 has been overcome due to Applicant's amendments.

Applicant's arguments with respect to the art rejection of claims 1-3, 6-11, 14, 17-18 have been considered but are moot in view of the new ground(s) of rejection made to address these amended claims.

Applicant's arguments with respect to the art rejection of claims 21, 23, 24, 26-28 have been considered, but have not been found to be persuasive. It is believed that the limitations recited in independent claim 21 have been met by the cited Horvath reference. The above rejection addresses each and every recited limitation.

Application states that the reference teaches that devices 12 are electrically connected to the metallurgy system on or within substrate 10 by solder interconnections 22 and therefore concludes that because the interconnections 22 are solder bonds, the limitation that the "compression contact between the chip contacts and the inner contact" cannot be met. However, as noted in the rejection, it is the Examiner's position that the attachment of the housing lid 16 (which is provided with elastic element 24) to the housing floor 10 inherently induces an elastic pressure on the chip regardless of the fact that the chip contacts 22 are solder bonded to the inner contacts and would therefore create a compression contact between the chip contacts and the inner

Art Unit: 2841

contacts in addition to the solder contact already provided. Horvath teaches that elastic element 24 has a combination of inwardly and outwardly radiating slots which allow said elastic element to flex without imposing destructive stresses on the device 12 (column 2, lines 54-58) fully supporting the fact that the elastic element provided on the lid provides a resilient force which would inherently create a compression contact between the chip contacts and the inner contacts. The claim does not state that the connection between the chip contacts and the inner contacts is solely provided by the compression contact. Therefore it is believed that the claim limitations are fully met by the prior art of record.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2841

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Vu whose telephone number is (703) 308-0303. The examiner can normally be reached on Mon. & Tues., 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David S. Martin can be reached on (703) 308-3121. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



PTVg
Patent Examiner
November 5, 2003